Chapter 8
Heavy Vehicles and Characteristics

Summary Statistics from Tables in this Chapter

Source		
Table 8.1	Heavy single-unit trucks, 2000	
	Registration (thousands)	*5,926*
	Vehicle miles (millions)	*70,583*
	Fuel economy (miles per gallon)	*7.4*
Table 8.2	Combination trucks, 2000	
	Registration (thousands)	*2,097*
	Vehicle miles (millions)	*135,208*
Table 8.6	Trucks by size, 1997 Vehicle Inventory & Use Survey	
	Light (0–10,000 lbs average weight)	*92.88%*
	Medium (10,001–26,000 lbs average weight)	*3.80%*
	Heavy (26,001 lbs and over average weight)	*3.32%*
Tables 8.10	Freight Shipments,1997 Commodity Flow Survey	
and 8.11	*Value (billion dollars)*	*6,944*
	Tons (millions)	*11,089*
	Ton-miles (billions)	*2,661*
Tables 8.12	Buses in operation, 2000	
and 8.13	*Transit*	*75,013*
	School	*606,028*

Other single-unit trucks include all single-unit trucks which have more than two axles or more than four tires. Most of these trucks would be used for business or for individuals with heavy hauling or towing needs.

Table 8.1
Summary Statistics for Other Single-Unit Trucks, 1970–2000

	Other single-unit trucks			
Year	Registrations (thousands)	Vehicle travel (million miles)	Fuel use (million gallons)	Fuel economy (miles per gallon)
1970	3,681	27,081	3,968	6.8
1975	4,232	34,606	5,420	6.4
1980	4,374	39,813	6,923	5.8
1981	4,455	39,568	6,867	5.8
1982	4,325	40,658	6,803	6.0
1983	4,204	42,546	6,965	6.1
1984	4,061	44,419	7,240	6.1
1985	4,593	45,441	7,399	6.1
1986	4,313	45,637	7,386	6.2
1987	4,188	48,022	7,523	6.4
1988	4,470	49,434	7,701	6.4
1989	4,519	50,870	7,779	6.5
1990	4,487	51,901	8,357	6.2
1991	4,481	52,898	8,172	6.5
1992	4,370	53,874	8,237	6.5
1993	4,408	56,772	8,488	6.7
1994	4,906	61,284	9,032	6.8
1995	5,024	62,705	9,216	6.8
1996	5,266	64,072	9,409	6.8
1997	5,293	66,893	9,576	7.0
1998	5,414	67,894	9,741	7.0
1999	5,763	70,304	9,372	7.5
2000	5,926	70,583	9,548	7.4

Source:
U. S. Department of Transportation, Federal Highway Administration, *Highway Statistics 2000*, Washington, DC, 2001, Table VM1 and annual.
(Additional resources: www.fhwa.dot.gov)

Note:
Highway Statistics 1999 data were not used.

Combination trucks include all trucks designed to be used in combination with one or more trailers. The average vehicle travel of these trucks (on a per truck basis) far surpasses the travel of other trucks due to long-haul freight movement.

Table 8.2
Summary Statistics for Combination Trucks, 1970–2000[a]

	Combination trucks[b]			
Year	Registrations (thousands)	Vehicle travel (million miles)	Fuel use (million gallons)	Fuel economy (miles per gallon)
1970	905	35,134	7,348	4.8
1975	1,131	46,724	9,177	5.1
1980	1,417	68,678	13,037	5.3
1981	1,261	69,134	13,509	5.1
1982	1,265	70,765	13,583	5.2
1983	1,304	73,586	13,796	5.3
1984	1,340	77,377	14,188	5.5
1985	1,403	78,063	14,005	5.6
1986	1,408	81,038	14,475	5.6
1987	1,530	85,495	14,990	5.7
1988	1,667	88,551	15,224	5.8
1989	1,707	91,879	15,733	5.8
1990	1,709	94,341	16,133	5.8
1991	1,691	96,645	16,809	5.7
1992	1,675	99,510	17,216	5.8
1993	1,680	103,116	17,748	5.8
1994	1,681	108,932	18,653	5.8
1995	1,696	115,451	19,777	5.8
1996	1,747	118,899	20,192	5.9
1997	1,790	124,584	20,302	6.1
1998	1,831	128,159	21,100	6.1
1999	2,029	132,384	24,537	5.4
2000	2,097	135,208	25,645	5.3

Source:
U. S. Department of Transportation, Federal Highway Administration, *Highway Statistics 2000*, Washington, DC, 2001, Table VM1 and annual.
(Additional resources: www.fhwa.dot.gov)

Note:
Highway Statistics 1999 data were not used.

[a] The Federal Highway Administration changed the combination truck travel methodology in 1993.

[b] The fuel economy for combination trucks is not the same as the fuel economy for Class 8 trucks. Fuel economy for Class 8 trucks is shown in Table 8.5.

Sales of the medium trucks, classes 3–6 rose substantially in 1998. Light trucks under 10,000 lbs., continue to dominate truck sales.

Table 8.3
New Retail Truck Sales by Gross Vehicle Weight, 1970–2001[a]
(thousands)

Calendar year	Class 1 6,000 lbs. or less	Class 2 6,001–10,000 lbs.	Class 3 10,001–14,000 lbs.	Class 4 14,001–16,000 lbs.	Class 5 16,001–19,500 lbs.	Class 6 19,501–26,000 lbs.	Class 7 26,001–33,000 lbs.	Class 8 33,001 lbs. and over	Total
Domestic sales (import data are not available)									
1970[b]	1,049	408	6	12	58	133	36	89	1,791
1975	1,101	952	23	1	9	159	23	83	2,351
1980	985	975	4	[c]	2	90	58	117	2,231
1981	896	850	1	[c]	2	72	51	100	1,972
1982	1,102	961	1	[c]	1	44	62	76	2,248
1983	1,314	1,207	[c]	[c]	1	47	59	82	2,710
1984	2,031	1,224	6	[c]	5	55	78	138	3,538
1985	2,408	1,280	11	[c]	5	48	97	134	3,983
Domestic and import sales									
1986	3,380	1,214	12	[c]	6	45	101	113	4,870
1987	3,435	1,175	14	2	8	44	103	131	4,912
1988	3,467	1,333	14	21	8	54	103	148	5,149
1989	3,313	1,297	19	27	7	39	93	145	4,942
1990	3,451	1,097	21	27	5	38	85	121	4,846
1991	3,246	876	21	24	3	22	73	99	4,365
1992	3,608	1,021	26	26	4	28	73	119	4,903
1993	4,119	1,232	27	33	4	27	81	158	5,681
1994	4,527	1,506	35	44	4	20	98	186	6,421
1995	4,422	1,631	40	53	4	23	107	201	6,481
1996	4,829	1,690	52	59	7	19	104	170	6,930
1997	5,085	1,712	53	57	9	18	114	179	7,226
1998	5,263	2,036	102	43	25	32	115	209	7,826
1999	5,707	2,366	122	49	30	48	130	262	8,716
2000	5,965	2,421	117	47	29	51	123	212	8,965
2001	6,073	2,525	102	52	24	42	92	140	9,050
				Average annual percentage change					
1970–1985	5.7%	7.9%	4.1%	-	-15.1%	-6.6%	6.8%	2.8%	5.5%
1986–2001	4.0%	5.0%	15.3%	-	9.7%	-0.5%	-0.6%	1.4%	4.2%

Source:
Ward's Communication's, *Motor Vehicle Facts and Figures 2000*, Southfield, MI, 2000, p. 24, and annual. (Additional resources: www.wardsauto.com)

[a] Sales include domestic-sponsored imports.
[b] Data for 1970 is based on new truck registrations.
[c] Data are not available.

Vehicle Inventory and Use Survey

The Vehicle Inventory and Use Survey (VIUS), which was formerly the Truck Inventory and Use Survey (TIUS), provides data on the physical and operational characteristics of the Nation's truck population. It is based on a probability sample of private and commercial trucks registered (or licensed) in each state. The name of the 1997 survey was changed to the Vehicle Inventory and Use Survey due to future possibilities of including additional vehicle types. The 2002 VIUS, however, will only include trucks. Data from the 2002 VIUS is expected in 2004. Copies of the 1997 VIUS report or CD may be obtained by contacting the U.S. Bureau of the Census, Transportation Characteristics Surveys Branch (301) 457-2797. Internet site: **www. census.gov/svsd/www/tiusview.html**

Since 1987 the survey has included minivans, vans, station wagons on truck chassis, and sport utility vehicles in addition to the bigger trucks. The 1977 and 1982 surveys did not include those vehicle types. The estimated number of trucks that were within the scope of the 1997 VIUS and registered in the U.S. as of July 1, 1997, was 72.8 million. These trucks were estimated to have been driven a total of 1,044 billion miles during 1997, an increase of 32.8% from 1992. The average annual miles traveled per truck was estimated at 14,300 miles.

In the 1997 VIUS, there are several ways to classify a truck by weight. The survey respondent was asked the average weight of the vehicle or vehicle-trailer combination when carrying a typical payload; the empty weight (truck minus cargo) of the vehicle as it was usually operated; and the maximum gross weight at which the vehicle or vehicle-trailer combination was operated. The Census Bureau also collected information on the Gross Vehicle Weight Class of the vehicles (decoded from the vehicle identification number) and the registered weight of the vehicles from the State registration files. Some of these weights are only provided in categories, while others are exact weights. Since all these weights could be quite different for a single truck, the tabulations by weight can be quite confusing. For illustration of this, see Tables 8.3 and 8.4. The first set of data are based on the Gross Vehicle Weight Class of the vehicle when it was manufactured; the data on Table 8.5 are based on the average weight as reported by the respondent. There is a 24% difference in the number of Class 1 trucks (6,000 lbs. and less). In most tables, the Gross Vehicle Weight Class was used. However, on the tables comparing different survey estimates, average weight must be used, as the older surveys did not include data on the Gross Vehicle Weight rating.

Table 8.4
Truck Statistics by Gross Vehicle Weight Class, 1997

Manufacturer's gross vehicle weight class	Number of trucks	Percentage of trucks	Average annual miles per truck	Average fuel economy	Gallons of fuel used (millions)	Percentage of fuel use
1) 6,000 lbs and less	45,240,632	62.14%	13,328	17.82	35,184	44.34%
2) 6,001 – 10,000 lbs	22,373,167	30.73%	12,952	14.11	21,226	26.75%
3) 10,001 – 14,000	510,476	0.70%	15,650	10.83	771	0.97%
4) 14,001 – 16,000	194,951	0.27%	16,390	10.11	320	0.40%
5) 16,001 – 19,500	178,111	0.24%	6,016	8.69	117	0.15%
6) 19,501 – 26,000	1,884,246	2.59%	13,637	8.21	3,202	4.04%
7) 26,001 – 33,000	207,386	0.28%	35,588	7.07	1,096	1.38%
8) 33,001 lbs and up	2,211,283	3.04%	48,095	6.69	17,427	21.96%
Total	**72,800,252**	**100.00%**	**14,347**	**16.02**	**79,344**	**100.00%**

Source:
U.S. Department of Commerce, Bureau of the Census, *1997 Vehicle Inventory and Use Survey*, Microdata File on CD, 2000. (Additional resources: www.census.gov/svsd/www.tiusview.html)

Table 8.5
Truck Harmonic Mean Fuel Economy by Size Class, 1992 and 1997
(miles per gallon)

Manufacturer's gross vehicle weight class	1992 TIUS	1997 VIUS
1) 6,000 lbs and less	17.2	17.1
2) 6,001–10,000 lbs	13.0	13.6
3) 10,000–14,000 lbs	8.8	9.4
4) 14,001–16,000 lbs	8.8	9.3
5) 16,001–19,500 lbs	7.4	8.7
6) 19,501–26,000 lbs	6.9	7.3
7) 26,001–33,000 lbs	6.5	6.4
8) 33,001 lbs and over	5.5	5.7

Source:
Estimates are based on data provided on the following public use files: U.S. Department of Commerce, Bureau of the Census, Census of Transportation, Washington, DC, *1992 Truck Inventory and Use Survey*, 1995; *1997 Vehicle Inventory and Use Survey*, 2000. (Additional resources: www.census.gov/svsd/www/tiusview.html)
Note:
Based on average fuel economy as reported by respondent.

As expected, most light trucks travel within 50 miles of their home base and refuel at public stations. Sixty percent of heavy trucks travel over 50 miles from their home base and 36% of them refuel at central company-owned refueling stations.

Table 8.6
Truck Statistics by Size, 1997

	Manufacturer's gross vehicle weight class			
	Light (< 10,000 lbs)	Medium (10,001–26,000 lbs)	Heavy (> 26,000 lbs)	Total
Trucks	67,613,799	2,767,784	2,418,669	72,800,252
Trucks (%)	92.88%	3.80%	3.32%	100%
Miles per truck	13,204	13,712	47,022	14,347
Total miles (%)	86.35%	3.35%	10.31%	100%
Fuel use (%)	71.10%	5.56%	23.35%	100%
Fuel economy (mpg)	15.81	7.84	5.75	13.02
	Range of operation			
Under 50 miles	75.11%	64.45%	39.37%	73.53%
51–100 miles	12.83%	16.53%	16.44%	13.09%
101–200 miles	3.86%	5.64%	10.54%	4.15%
201–500 miles	2.09%	4.65%	12.19%	2.52%
Over 500 miles	2.31%	1.25%	16.80%	2.75%
Off-road	3.81%	7.49%	4.66%	3.97%
Total	**100%**	**100%**	**100%**	**100%**
	Primary refueling facility			
Central company-owned	11.52%	27.32%	35.94%	29.20%
Single off-site contract	3.61%	5.84%	7.00%	6.08%
Pubic station	82.49%	61.96%	53.25%	60.56%
Other	2.38%	4.88%	3.80%	4.16%
Total	**100%**	**100%**	**100%**	**100%**

Source:
U.S. Department of Commerce, Bureau of the Census, *1997 Vehicle Inventory and Use Survey*, Microdata File on CD, 2000. (Additional resources: www.census.gov/svsd/www/tiusview.html)

More medium truck owners listed construction as the truck's major use than any other major use category. Construction was the second highest major use for light trucks and heavy trucks.

Table 8.7
Percentage of Trucks by Size Ranked by Major Use, 1997

Rank	Light (< 10,000 lbs average weight)	Medium (10,001 – 26,000 lbs average weight)	Heavy (> 26,000 lbs average weight)
1	**Personal**	**Construction**	**For Hire**
	74.56%	20.19%	31.48%
2	**Construction**	**Agriculture**	**Construction**
	7.56%	19.54%	17.56%
3	**Services[a]**	**Services[a]**	**Agriculture**
	5.57%	11.64%	14.01%
4	**Agriculture**	**Retail**	**Wholesale**
	3.82%	9.28%	7.81%
5	**Retail**	**Wholesale**	**Services[a]**
	2.79%	7.31%	7.39%
6	**Not in Use**	**Personal**	**Retail**
	1.61%	7.00%	5.67%
7	**Wholesale**	**For Hire**	**Manufacturing**
	1.33%	5.47%	5.61%
8	**Manufacturing**	**Utilities**	**Forestry**
	0.74%	4.40%	2.56%
9	**Utilities**	**Daily Rental**	**Utilities**
	0.75%	4.21%	2.18%
10	**Daily Rental**	**Manufacturing**	**Mining**
	0.53%	3.72%	2.18%
11	**Forestry**	**Not in Use**	**Daily Rental**
	0.26%	3.21%	2.11%
12	**Mining**	**Forestry**	**Not in Use**
	0.25%	1.64%	1.11%
13	**For Hire**	**One-Way Rental**	**Personal**
	0.21%	1.24%	0.31%
14	**One-Way Rental**	**Mining**	**One-Way Rental**
	0.01%	1.14%	0.01%

Source:
U.S. Department of Commerce, Bureau of the Census, *1997 Vehicle Inventory and Use Survey*, Micro data File on CD, 2000. (Additional resources: www.census.gov/svsd/www/tiusview.html)

[a] Business and personal services.

In 1997 nearly 60% of all truck fleets use public fueling stations as their primary refueling facility. As expected, larger fleets use central company-owned facilities more than smaller fleets. Mid-size fleets (10–500 vehicles) use off-site contract facilities more than the smaller or larger fleets.

Table 8.8
Percentage of Trucks by Fleet Size and Primary Fueling Facility, 1997

	Primary refueling facility				
Truck fleet size	Central company-owned fueling facility	Single contract fueling facility located off-site	Public fueling stations	Other	Total
1	5.94%	2.70%	87.26%	4.09%	100%
2–5	13.80%	4.56%	76.12%	5.52%	100%
6–9	25.77%	7.32%	62.02%	4.88%	100%
10–24	37.08%	10.43%	49.70%	2.79%	100%
25–99	48.48%	9.65%	39.29%	2.59%	100%
100–499	48.76%	10.62%	38.40%	2.22%	100%
500–999	46.39%	7.46%	44.38%	1.77%	100%
1,000–4,999	45.24%	4.93%	45.94%	3.89%	100%
5,000–9,999	35.77%	6.01%	53.36%	4.87%	100%
10,000 & up	71.72%	2.56%	19.27%	6.45%	100%
Overall	**30.08%**	**6.39%**	**59.37%**	**4.16%**	**100%**

Source:
U.S. Department of Commerce, Bureau of the Census, *1997 Vehicle Inventory and Use Survey*, Microdata File on CD, 2000. (Additional resources: www.census.gov/svsd/www/tiusview.html)

Most trucks are fueled at public fueling stations but one-way rental trucks are more often fueled at company-owned central fueling facilities or contract fueling facilities than at public stations. Mining and quarrying activities use central fueling facilities more than 40% of the time.

Table 8.9
Percentage of Trucks by Major Use and Primary Fueling Facility, 1997

	Primary fueling facility				
Major Use	Central company-owned fueling facility	Single contract fueling facility located off-site	Public fueling stations	Other	Total
Agricultural services	32.09%	2.99%	53.92%	11.00%	100%
Forestry or lumbering activities	22.49%	4.50%	70.33%	2.68%	100%
Construction work	33.40%	5.39%	58.79%	2.42%	100%
Contractor activities or special trades	12.09%	4.38%	81.18%	2.36%	100%
Manufacturing, refining or processing activities	35.47%	9.48%	53.69%	1.36%	100%
Wholesale trade	32.56%	11.90%	53.62%	1.92%	100%
Retail trade	28.21%	10.25%	59.41%	2.12%	100%
Business and personal services	26.40%	6.33%	65.42%	1.85%	100%
Utilities	40.56%	5.09%	52.25%	2.09%	100%
Mining or quarrying activities	43.82%	9.32%	44.44%	2.42%	100%
Daily rental	39.42%	13.29%	45.12%	2.17%	100%
Not in use for more than six months	10.56%	2.37%	53.12%	33.94%	100%
For-hire transportation	32.87%	4.90%	59.53%	2.70%	100%
One-way rental	48.47%	3.10%	48.43%	0.00%	100%
Personal transportation	2.02%	0.56%	94.46%	2.96%	100%
Overall	**29.20%**	**6.08%**	**60.56%**	**4.16%**	**100%**

Source:
U.S. Department of Commerce, Bureau of the Census, *1997 Vehicle Inventory and Use Survey*, Microdata File on CD, 2000.
(Additional resources: www.census.gov/svsd/www/tiusview.html)

Commodity Flow Survey

The Commodity Flow Survey (CFS) is designed to provide data on the flow of goods and materials by mode of transport. The 1993 and 1997 CFS are a continuation of statistics collected in the Commodity Transportation Survey from 1963 through 1977, and include major improvements in methodology, sample size, and scope. In 1997, CFS used a sample of 100,000 domestic establishments randomly selected from a universe of about 800,000 establishments engaged in mining, manufacturing, wholesale, auxiliary establishments (warehouses) of multi-establishment companies, and some selected activities in retail and service was used. Each selected establishment reported a sample of approximately 25 outbound shipments for a one-week period in each of the four calendar quarters of 1997. This produced a total sample of over 5 million shipments. For each sampled shipment, zip codes of origin and destination, 5-digit Standard Classification of Transported Goods (SCTG) code, weight, value, and modes of transport, were provided. Establishments also reported whether the shipment was containerized, a hazardous material, or an export.

The 1993 and 1997 CFS differ from previous surveys in their greatly expanded coverage of intermodalism (i.e., shipments which travel by at least two different modes, such as rail and truck). Earlier surveys reported only the principal mode. The 1993 and 1997 surveys report all modes used for the shipment (for-hire truck, private truck, rail, inland water, deep sea water, pipeline, air, parcel delivery or U.S. Postal Service, other mode, unknown). Route distance for each mode for each shipment as imputed from a mode-distance table was developed by Oak Ridge National Laboratory. Distance, in turn, was used to compute ton-mileage by mode of transport.

For more information about the CFS, contact the Commodity Flow Survey Branch, Department of Commerce, Bureau of the Census, Services Division at (301) 457-2108, or visit the following Internet site: **www.bts.gov/cfs** .

Industries covered by the 1997 Commodity Flow Survey (CFS) shipped over 11 billion tons of goods worth almost $7 trillion. Compared to the 1993 CFS, the value of shipments is up 9.2% and ton shipped are up 14.5%. By value, intermodal shipments increased 31.2% over 1993.

Table 8.10
Growth of Freight in the United States: Comparison of the 1997 and 1993 Commodity Flow Surveys
(Detail may not add to total because of rounding)

Mode of Transportation	Value			Tons		
	1997 (billion 1997 dollars)	1993 (billion 1997 dollars)	Percent change	1997 (millions)	1993 (millions)	Percent change
All modes	**6,944.0**	**6,360.8**	**9.2%**	**11,089.7**	**9,688.5**	**14.5%**
Single modes	**5,719.6**	**5,376.3**	**6.4%**	**10,436.5**	**8,922.3**	**17.0%**
Truck[a]	4981.5	4791.0	4.0%	7700.7	6385.9	20.6%
For-hire truck	2901.3	2856.1	1.6%	3402.6	2808.3	21.2%
Private truck	2036.5	1910.4	6.6%	4137.3	3543.5	16.8%
Rail	319.6	269.2	18.7%	1,549.8	1,544.1	0.4%
Water	75.8	67.1	13.1%	563.4	505.4	11.5%
Shallow draft	53.9	44.3	21.7%	414.8	362.5	14.4%
Great Lakes	1.5	[c]	[c]	38.4	33.0	[c]
Deep draft	20.4	21.5	-4.9%	110.2	109.9	0.2%
Air (includes truck and air)	229.1	151.3	51.4%	4.5	3.1	42.6%
Pipeline[b]	113.5	97.8	16.1%	618.2	483.6	27.8%
Multiple modes	**945.9**	**720.9**	**31.2%**	**216.7**	**225.7**	**-4.0%**
Parcel, U.S. Postal Service or courier	855.9	612.8	39.7%	23.7	18.9	25.4%
Truck and rail	75.7	90.4	-16.3%	54.2	40.6	33.5%
Truck and water	8.2	10.2	-19.4%	33.2	68.0	-51.2%
Rail and water	1.8	4.0	-55.2%	79.3	79.2	0.1%
Other multiple modes	4.3	3.5	22.0%	26.2	18.9	38.6%
Other and unknown modes	**278.6**	**263.6**	**5.7%**	**436.5**	**540.5**	**-19.2%**

Source:
U.S. Department of Transportation, Bureau of Transportation Statistics, *Freight USA*, Washington, DC, 2000. (Additional resources: www.bts.gov/cfs)

[a] "Truck" as a single mode includes shipments which went by private truck only, for-hire truck only, or a combination of private truck and for-hire truck.
[b] CFS data for pipeline lack most shipments of crude oil.
[c] Denotes data do not meet publication standards because of high sampling variability or other reasons. Some unpublished estimates can be derived from other data published in this table. However, figures obtained in this manner are subject to these same limitations.

Industries covered by the 1997 Commodity Flow Survey (CFS) accounted for about 2.7 trillion ton-miles on the nation's highways, railways, waterways, pipelines, and aviation system. Ton-miles increased 9.9% from 1993 to 1997.

Table 8.11
Growth of Freight Miles in the United States: Comparison of the 1997 and 1993 Commodity Flow Surveys
(Detail may not add to total because of rounding)

Mode of Transportation	Ton-miles			Average miles per shipment		
	1997 (billions)	1993 (billions)	Percent change	1997	1993	Percent change
All modes	**2,661.4**	**2,420.9**	**9.9%**	**472**	**424**	**11.4%**
Single modes	**2,383.5**	**2,136.9**	**11.5%**	**184**	**197**	**-6.4%**
Truck[a]	1023.5	869.5	17.7%	144	144	-0.1%
For-hire truck	741.1	629.0	17.8%	485	472	2.9%
Private truck	268.6	235.9	13.9%	53	52	2.1%
Rail	1,022.5	942.6	8.5%	769	766	3.0%
Water	261.7	272.0	-3.8%	482	[c]	[c]
Shallow draft	189.3	164.4	15.2%	177	[c]	[c]
Great Lakes	13.4	12.4	8.2%	204	534	-61.8%
Deep draft	59.0	95.2	-38.0%	1,024	1,861	-45.0%
Air (includes truck and air)	6.2	4.0	55.5%	1,380	1,415	-2.5%
Pipeline[b]	[c]	[c]	[c]	[c]	[c]	[c]
Multiple modes	**204.5**	**191.5**	**6.8%**	**813**	**736**	**10.5%**
Parcel, U.S. Postal Service or courier	18.0	13.2	36.8%	813	734	10.7%
Truck and rail	55.6	37.7	47.5%	1,347	1,403	-3.9%
Truck and water	34.8	40.6	-14.4%	1,265	1,417	-10.7%
Rail and water	77.6	70.2	10.5%	1,092	627	74.1%
Other multiple modes	18.6	[c]	[c]	[c]	1,082	[c]
Other and unknown modes	**73.4**	**92.6**	**-20.7%**	**122**	**229**	**-46.9%**

Source:
U.S. Department of Transportation, Bureau of Transportation Statistics, *Freight USA*, Washington, DC, 2000. (Additional resources: www.bts.gov/cfs)

[a] "Truck" as a single mode includes shipments which went by private truck only, for-hire truck only, or a combination of private truck and for-hire truck.

[b] CFS data for pipeline lack most shipments of crude oil.

[c] Denotes data do not meet publication standards because of high sampling variability or other reasons. Some unpublished estimates can be derived from other data published in this table. However, figures obtained in this manner are subject to these same limitations.

The number of active transit buses has increased by 7,700 buses from 1984 to 2000, but the number of passenger-miles in 2000 is nearly identical to the 1984 level.

Table 8.12
Summary Statistics on Transit Buses, 1984–2000

Year	Number of active buses	Vehicle-miles (millions)	Passenger-miles (millions)	Energy use (trillion Btu)
1984	67,294	1,845	21,595	69.2
1985	64,258	1,863	21,161	72.4
1986	66,218	2,002	21,395	75.6
1987	63,017	2,079	20,970	74.3
1988	62,572	2,097	20,753	73.0
1989	58,919	2,109	20,768	77.3
1990	58,714	2,130	20,981	78.9
1991	60,377	2,167	21,090	80.6
1992	63,080	2,178	20,336	87.7[a]
1993	64,850	2,210	20,247	86.3
1994	68,123	2,162	18,832	86.8
1995	67,107	2,184	18,818	87.4
1996	71,678	2,221	19,096	89.3
1997	72,770	2,245	19,604	93.0
1998	72,142	2,175	20,360	95.4
1999	74,228	2,276	21,205	97.8
2000	75,013	2,315	21,241	101.4
		Average annual percentage change		
1984–2000	0.7%	1.4%	-0.1%	[a]
1992–2000	2.2%	0.8%	0.5%	1.8%

Source:
American Public Transit Association, *2002 Public Transportation Fact Book*, Washington, DC, 2002, Tables 30, 42, 46, 65, 66 and 67.

[a] Comparisons cannot be made with data before 1992. Beginning in 1992, data were available on non-diesel fuel consumption (i.e. propane, compressed natural gas, methanol).

There are currently not many sources of data on intercity and school buses. The Eno Foundation for Transportation publishes petroleum use for intercity and school buses, and passenger-miles for intercity buses. The Federal Highway Administration publishes an estimate of the total number of school buses. School Bus Fleet magazine also contains statistics on school buses (www.schoolbusfleet.com/stats.cfm).

Table 8.13
Summary Statistics on Intercity and School Buses, 1970–2000

Year	Intercity bus passenger-miles (billions)	Intercity bus energy use (trillion Btu)	Number of school buses	School bus energy use (trillion Btu)
1970	25.3	42.4	288,700	41.18
1975	25.4	25.1	368,300	46.95
1980	27.4	29.7	418,255	52.14
1981	27.1	28.5	432,813	53.12
1982	26.9	31.5	442,133	54.74
1983	25.6	32.9	470,727	55.03
1984	24.6	23.5	471,461	51.51
1985	23.8	23.0	480,400	58.37
1986	23.7	20.6	479,076	63.50
1987	23.0	21.6	486,753	66.91
1988	23.1	22.3	498,907	70.19
1989	24.0	23.1	507,628	68.41
1990	23.0	22.1	508,261	64.83
1991	23.1	22.3	513,227	73.25
1992	22.6	21.8	525,838	74.98
1993	24.7	23.8	534,872	73.25
1994	28.1	27.1	547,718	74.98
1995	28.1	27.1	560,447	74.87
1996	28.8	27.7	569,395	74.87
1997	30.6	29.5	568,113	74.81
1998	31.7	30.5	582,470	75.56
1999	34.7	33.4	592,029	76.31
2000	[a]	[a]	606,028	[a]
		Average annual percentage change		
1970–1999	1.1%	-0.8%	2.5%	2.1%
1989–1999	3.8%	3.8%	1.5%	1.1%

Source:
Intercity bus data and school bus energy use - Eno Foundation for Transportation, *Transportation in America 2000*, Eighteenth edition, Washington, DC, pp. 15, 20–23. See Appendix A Energy Use Sources for detailed methodology on energy use conversion.
School buses - Federal Highway Administration, *Highway Statistics 2000*, Washington, DC, 2001, Table MV-10, and annual.

[a]Data are not yet available.